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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/327,266	06/07/1999	ROE-HOAN YOON	MCT-2	5252

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DONALD J PERREAULT
GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC
795 ELM STREET
SUITE 604
MANCHESTER, NH 03101

EXAMINER	
HRUSKOCI, PETER A	

ART UNIT	PAPER NUMBER
1724	10

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/327,266	YOON, ROE-HOAN
	Examiner	Art Unit
	Peter A. Hruskoci	1724

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,10-13,67-73 and 75-78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,10-13,67-73 and 75-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 12, 70, 72, and 75-77 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 12 , 70, 72, and 77 "or animal", in claim 75 "type-surfactant", and in claim 76 "xanthenes...thiourea" lack clear antecedent basis in the specification as originally filed, and appear to be drawn to new matter.

Claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 67 "slury" appears to be erroneous and should be changed to - slurry -.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 67-69, 71, 77, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al. 5,670,056 in view of Yoon et al. 5,161,694. Yoon et al. (056) disclose (see col. 2 line 21 through col. 6 line 32) a process for dewatering a slurry of fine particulate material substantially as claimed. It is submitted that the addition of a combination of non-ionic surfactants and hydrophobic polymers as disclosed in Yoon et al. (056) would appear to increase

the hydrophobicity of the particulate material as in the instant process. The claims differ from Yoon et al. (056) by reciting specific steps for increasing the hydrophobicity of the particulate material with a hydrocarbon oil, respectively. Yoon et al. (694) disclose (see col. 13 lines 21-40, and col. 17 lines 3-49) that it is known in the art to add hydrocarbon oil to slurries of hydrophobic material such as coal to aid in coagulating the material. It would have been obvious to one skilled in the art to modify the process of Yoon et al. (056) by addition of the recited hydrocarbon oil in view of the teachings of Yoon et al. (694) to increase the hydrophobicity of the particulate material and aid coagulating the material in the slurry. With regard to claim 68, it is submitted that the particle size of the particulate material dewatered in Yoon (056) is considered patentably indistinguishable from the particle size of the instant particulate material.

Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al. (056) in view of Yoon et al. (694) as applied above, and further in view of Wang et al. 4,210,531. The claim differs from the references as applied above by reciting that the surfactant is blended with a specific oil. Wang et al. disclose (see col. 2 line 27 through col. 4 line 24) that it is known in the art to utilize a combination of surfactant and the recited oils, to aid in dewatering mineral slurry concentrates. It would have been obvious to one skilled in the art to modify the process of Yoon et al. by utilizing a surfactant blended with the recited oils in view of the teachings of Wang et al., to aid in dewatering the slurry.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2, 10-13, 67-73, and 75-78 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-51 of U.S. Patent No. 6,526,675 Yoon. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process steps recited in the instant claims appear to be included in the process steps recited in the claims of the patent.

Applicant argues that there is nothing in any of the cited references that teaches or suggests using a hydrocarbon oil in an initial step and then a non-ionic surfactant of HLB less than 15 in a second step as required by claim 67. It is submitted that it is well known in the art to utilize a hydrocarbon oil to enhance the hydrophobicity of coal as disclosed on page 8 of the instant specification, and in Yoon (694) as applied above to aid in collecting and coagulating the coal. It would have been obvious to one skilled in the art having the references before him to modify the process of Yoon (056) by addition of hydrocarbon oil as an initial hydrophobization step in view of the teachings of Yoon (694), to aid in dewatering a slurry of hydrophobic material, absent a sufficient showing of unexpected results.

Applicant alleges that the Yoon Declaration demonstrates in Exhibits B and C that the claimed process has significant advantages over using a hydrocarbon oil. The Declaration has been carefully considered but fails to overcome the above rejections. It is submitted that the specific test conditions utilized to produce the results shown in these Exhibits are not

commensurate with the scope of the instant claims. It is noted that these conditions included the use of specific a hydrocarbon oil and surfactant in the dewatering of specific slurries. Furthermore, these Examples fail to include comparative evidence with the prior art used in the above rejections to support the above allegation.

Applicants arguments concerning Wang et al. are based on the propriety of Yoon et al. (056), which is deemed properly applied for reasons stated above. Furthermore, it is submitted that the surfactants and flocculants added in Wang et al. are not excluded from the instant claims.

Claims 1 would be allowable upon the filing of a proper terminal disclaimer. Claim 75 properly written to recite a - thiol collector - instead of "type surfactant" would be allowable, upon the filing of a proper terminal disclaimer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter A. Hruskoci
Primary Examiner
Art Unit 1724

2/7/04